

Hat Creek, Lassen County, California, June 4, 1941 (E. G. Linsley, C. D. Michener).

TRIGONA CUPIRA Smith

Coxae and trochanters with spines, those of fore and hind coxae very short; fore and middle femora each with projection at base; metasomal terga two and following with subapical rows of setae.

Juan Mina, Canal Zone, May 4, 1945 (C. D. Michener).

APIS MELLIFERA Linnaeus

Coxae and trochanters with spines, those of front coxae short, of front trochanters unusually long; fore femora each with a spine at base, middle femora with a blunt projection, hind femora with a broad rounded projection.

Lawrence, Kansas, June 1, 1952 (M. H. Michener).

BIBLIOGRAPHY

MICHENER, CHARLES D.

1944. Comparative external morphology, phylogeny, and a classification of the bees (Hymenoptera). Bull. Amer. Mus. Nat. Hist., vol. 82, pp. 151-326.

PACKARD, A. S.

1897. Notes on the transformations of higher hymenoptera. II and III, Jour. New York Ent. Soc., vol. 5, pp. 77-87, 109-120.

PORTER, JOHN C.

1951. Notes on the digger-bee, *Anthophora occidentalis*, and itsinquilines. Iowa State College Jour. Sci., vol. 26, pp. 23-30.

SEMICHON, LOUIS

1922. Sur la nymphe de *Melecta armata* Panzer (Hym. Apidae). Bull. Soc. Ent. France, p. 192-194.

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A NEW SPECIES OF DOBSONFLY FROM CALIFORNIA

(Megaloptera: Corydalidae)

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During a recent investigation, a number of immature forms of some dobsonflies of the genus *Protochauliodes* were reared, and a new species was noted. It is most closely related to *Protochauliodes minimus* (Davis) but differs noticeably in the structure of the terminalia.

*Protochauliodes aridus* Maddux, n.sp.

*Male*: General body color closely resembling that of *Protochauliodes minimus*. Head triangular, widest across eyes, tapering caudad to its nar-

rowest width at point of attachment to thorax; tuft of long hairs on lateral border of head, just posterior to each eye. Antennae dark brown, simple, filiform, approximately the same length as the body; antennal segments twice as long as broad and bearing short bristles closely appressed to the margin of the segments to which they are attached. Mouthparts rufous, apex of distal point of incisor of mandible usually not extending below proximal end of mandible. *Prothorax* longer than wide, the sides nearly parallel, mesothorax and metathorax broader than long. Wings hyaline and cinerous, with a conspicuous, transverse, fuscous blotch surrounding the medio-cubital cross-vein; other such blotches are scattered over the wing surfaces, especially in the costal and subcostal cells of the fore wings. Blotches fewer on the hind wing and confined almost entirely to an area along the costal margin. Hind wing with a small, round, fuscous mark, just proximad to each of the two inner radio-medial cross-veins. Fore wing slightly longer than the hind wing, but both essentially alike in venation, the venation agreeing with that of other members of the genus and being very much the same as that of *Protochauliodes minimus*. *Aedeagus* wide at base, narrowing to half the width at the apex; apex notched. Base of gonopod with dorso-medial side enlarged into a conspicuous tuberosity. Apex of gonopod half the height of the base. Body length 16 mm.; alar expanse 57 mm.

*Female*: Much larger than male. Body length 21 mm.; alar expanse 82 mm. Antennae approximately the length of the body; antennal segments rectangular, lightly pilose.

*Holotype*, male, reared by the author from a larva taken in a dry stream bed near the Neal Road, seven miles southeast of CHICO, BUTTE COUNTY, CALIFORNIA, May 15, 1951. The *allotype* was reared from a larva taken at the same locality, May 10, 1951. Two *paratypes* were reared from larvae collected at the same locality, one on May 8, 1951, the other on May 9, 1951; both are males. Holotype and allotype are in the museum of the California Academy of Sciences, San Francisco. Paratypes are in the collection at Chico State College.

The larval and pupal forms from which the above specimens were reared were taken in streams which have water for only a few days in the winter. They were found under rocks in cells fashioned to prevent the drying of the specimen. Eggs were collected in the field and were also obtained from specimens reared in the laboratory. The egg masses are rectangular in outline; the eggs are arranged in a series of parallel rows, about 3,000 in a large bunch. The micropylar ends all face in the same direction. The eggs are deposited in June, hatch in about a week, and the very small larvae burrow into the dry soil near the larger rocks. Pupation occurs in March, April, and May. The adults hatch in May and June.